

CLAIMS

1. A programmed material consolidation system, comprising:
a plurality of fabrication sites; and
at least one common component useful with more than one of the plurality of fabrication sites.
2. The programmed material consolidation system of claim 1, wherein the at least one common component comprises a material consolidation system.
3. The programmed material consolidation system of claim 2, wherein the material consolidation system comprises a location control element.
4. The programmed material consolidation system of claim 3, wherein the location control element is configured to direct consolidating energy to a selected fabrication site.
5. The programmed material consolidation system of claim 3, wherein the location control element comprises a plurality of galvanometers.
6. The programmed material consolidation system of claim 3, further comprising:
a plurality of mirrors positioned to direct consolidating energy from the material consolidation system toward each fabrication site associated therewith, each mirror of the plurality of mirrors being located within a range of movement of the location control element.
7. The programmed material consolidation system of claim 1, wherein the at least one common component comprises a cleaning component for removing unconsolidated material from fabricated objects or fabrication substrates that carry fabricated objects.
8. The programmed material consolidation system of claim 1, wherein the at least one common component comprises a substrate handling system associated with more than one of the plurality of fabrication sites.

9. The programmable material consolidation system of claim 8, wherein the substrate handling system comprises a rotary feed system.

10. The programmable material consolidation system of claim 8, wherein the substrate handling system comprises a linear feed system.

11. The programmable material consolidation system of claim 8, wherein the substrate handling system is configured to introduce the one or more substrates into each of the plurality of fabrication sites.

12. The programmable material consolidation system of claim 8, further comprising: a cleaning component.

13. The programmable material consolidation system of claim 12, wherein the substrate handling system is configured to transport the one or more substrates having at least one feature fabricated thereon from a fabrication site of the plurality of fabrication sites to the cleaning component.

14. The programmable material consolidation system of claim 13, wherein the substrate handling system is configured to transport substrates from each of the plurality of fabrication sites to the cleaning component.

15. The programmable material consolidation system of claim 14, further comprising: at least one processing element for controlling operation of the substrate handling system.

16. The programmable material consolidation system of claim 15, wherein the at least one processing element is configured to orchestrate movement of substrates from the plurality of fabrication sites to the cleaning component.

17. A programmed material consolidation method, comprising:
directing consolidating energy toward a first fabrication site of a programmed material consolidation system to consolidate previously unconsolidated material at the first fabrication site; then
directing consolidating energy toward a distinct, second fabrication site of the programmed material consolidation system to consolidate previously unconsolidated material at the second fabrication site.
18. The programmed material consolidation method of claim 17, wherein directing consolidating energy toward at least one of the first and second fabrication sites comprises directing consolidating energy toward or adjacent to at least one substrate at the first or second fabrication site.
19. The programmed material consolidation method of claim 18, further comprising: removing the at least one first substrate from the first fabrication site as consolidating energy is directed toward the second fabrication site.
20. The programmed material consolidation method of claim 19, further comprising: placing another substrate at the first fabrication site following the removing.
21. The programmed material consolidation method of claim 20, further comprising: redirecting consolidating energy toward the first fabrication site after directing consolidating energy toward the second fabrication site and after placing the another substrate in the first fabrication site.
22. The programmed material consolidation method of claim 17, wherein directing consolidating energy comprises directing a beam of ultraviolet radiation.